

405 KAR 3:180. Coal waste dams.

RELATES TO: KRS 350.151

STATUTORY AUTHORITY: KRS 350.151

NECESSITY, FUNCTION, AND CONFORMITY: KRS 350.151 requires the Environmental and Public Protection Cabinet to adopt rules and administrative regulations for the surface effects of underground coal mining. This administrative regulation sets forth requirements for the design, construction, maintenance and reclamation of coal waste dams.

Section 1. General. No waste material shall be used in existing or new dams without the approval of the cabinet. The permittee shall design, locate, construct, operate, maintain, modify, and abandon or remove all dams (used either temporarily or permanently) constructed of waste materials, in accordance with the requirements of this administrative regulation.

Section 2. Construction of Dams. (1) Waste shall not be used in the construction of dams unless demonstrated through appropriate engineering analysis, to have no adverse effect on stability.

(2) Plans for dams subject to this section, and also including those dams that do not meet the size or other criteria of 30 CFR 77.216(a) shall be approved by the cabinet before construction and shall contain the minimum plan requirements established by the Mine Safety and Health Administration pursuant to 30 CFR 77.216-2.

(3) Construction requirements are as provided in this subsection:

(a) Design shall be based on the flood from the probable maximum precipitation event unless the permittee shows that the failure of the impounding structure would not cause loss of life or severely damage property or the environment, in which case, depending on site conditions, a design based on a precipitation event of no less than 100-year frequency may be approved by the cabinet.

(b) The design freeboard distance between the lowest point on the embankment crest and the maximum water elevation shall be at least three (3) feet to avoid overtopping by wind and wave action.

(c) Dams shall have minimum safety factors as provided in the following table:

Case	Loading Condition	Minimum Safety Factor
I	End of construction	1.3
II	Partial pool with steady seepage saturation	1.5
III	Steady seepage from spillway or decant crest	1.5
IV	Earthquake (cases II and III with seismic loading)	1.0

(d) The dam, foundation, and abutments shall be stable under all conditions of construction and operation of the impoundment. Sufficient foundation investigations and laboratory testing shall be performed to determine the factors of safety of the dam for all loading conditions in this administrative regulation and for all increments of construction.

(e) Seepage through the dam, foundation, and abutments shall be controlled to prevent excessive uplift pressures, internal erosion, sloughing, removal of material by solution, or erosion of material by loss into cracks, joints, and cavities. This may require the use of impervious

blankets, pervious drainage zones or blankets, toe drains, relief wells, or dental concreting of jointed rock surface in contact with embankment materials.

(f) Allowances shall be made for settlement of dams and foundations so that the required freeboard will be maintained.

(g) Impoundments created by dams of waste materials shall be subject to a minimum drawdown criteria that allows the facility to be evacuated within ten (10) days by spillways or decants of ninety (90) percent of the volume of water stored during the design precipitation event.

(h) During construction of dams subject to this administrative regulation the structures shall be periodically inspected by a registered professional engineer to ensure construction according to the approved design. On completion of construction, the structure shall be certified by a registered professional engineer experienced in the field of dam construction as having been constructed in accordance with accepted professional practice and the approved design.

(i) A permanent identification marker, at least six (6) feet high that shows the dam number assigned pursuant to 30 CFR 77.216-1 and the name of the person operating or controlling the dam, shall be located on or immediately adjacent to each dam within thirty (30) days of certification of design pursuant to this administrative regulation.

(4) All dams, including those not meeting the size or other criteria of 30 CFR 77.216-1, shall be routinely inspected by a registered professional engineer, or someone under the supervision of a registered professional engineer, in accordance with Mine Safety and Health Administration regulations pursuant to 30 CFR 77.216-3.

(5) All dams shall be routinely maintained. Vegetative growth shall be cut where necessary to facilitate inspection and repairs. Ditches and spillways shall be cleaned. Any combustible materials present on the surface, other than that used for surface stability such as mulch or dry vegetation, shall be removed and any other appropriate maintenance procedures followed.

(6) All dams subject to this administrative regulation shall be certified annually as having been constructed and modified in accordance with current prudent engineering practices to minimize the possibility of failures. Any changes in the geometry of the impounding structure shall be highlighted and included in the annual certification report. These certifications shall include a report on existing and required monitoring procedures and instrumentation, the average and maximum depths and elevations of any impounded waters over the past year, existing storage capacity of impounding structures, any fires occurring in the material over the past year and any other aspects of the structures affecting their stability.

(7) Any enlargements, reductions in size, reconstruction or other modification of the dams shall be approved by the cabinet before construction begins.

(8) All dams shall be removed and the disturbed areas regraded, revegetated, and stabilized before the release of bond unless the cabinet approves retention of such dams as being compatible with an approved postmining land use.

(9) Coal waste dams (except those classified as Class (A) pursuant to 405 KAR 3:020, Section 5(2)(d)) constructed pursuant to this administrative regulation shall be approved by the cabinet, designed, constructed and maintained according to the provisions of KRS 151.250 and administrative regulations adopted pursuant thereto. (4 Ky.R. 422; eff. 5-3-78; Am. 526; 5 Ky.R. 232; eff. 8-23-78; TAm eff. 8-9-2007.)